

## CLAIMS

1. A method of operating an optical receiver system, said method comprising:

5 receiving an optical signal;  
converting said optical signal to an electrical signal;  
automatically identifying a clock rate of said electrical signal; and  
using said identified clock rate to select a signal type of said optical signal from a set of possible signal types.

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2. The method of claim 1 wherein automatically identifying said clock rate comprises:

attempting to lock to a bit clock of said electrical signal using a plurality of clock rates;

15 upon achieving lock, determining a current one of said plurality of clock rates to be said identified clock rate.

3. The method of claim 2 wherein automatically identifying said clock rate comprises:

evaluating a frequency difference between a bit clock recovered from said signal  
and a reference clock;

determining said identified clock rate based on said difference.

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4. The method of claim 1 further comprising:

based on said signal type, selecting a traffic processing block to further process  
said electrical signal.

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5. The method of claim 1 further comprising:

based on said signal type, selecting a performance monitoring method to monitor  
quality of said optical signal.

6. The method of claim 1 wherein one of said possible signal types is

15 SONET OC-192.

7. The method of claim 1 wherein one of said possible signal types is SDH

STM-64.

8. The method of claim 1 wherein one of said possible signal types is 10  
Gigabit Ethernet having a bit rate of 10.325 Gbps.

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9. The method of claim 1 wherein one of said possible signal types is G.709  
having a bit rate of 10.709 Gbps.

10. The method of claim 1 wherein one of said possible signal types is 10  
10 Gigabit Ethernet employing Forward Error Correction and having a bit rate of 11.090  
Gbps.

11. Apparatus for operating an optical receiver system, said apparatus  
comprising:

15 a clock recovery block that recovers a clock signal from a received optical signal;

and

a control processor that directs said clock recovery block to attempt to lock to said  
optical signal using a plurality of clock rates, and that upon achieving lock using a clock  
rate matching that of said optical signal, employs said matching clock rate to determine a  
20 signal type of said optical signal.

12. The apparatus of claim 11 wherein said control processor, based on said signal type, selects a traffic processing block to further process said electrical signal.

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13. The apparatus of claim 11 wherein said control processor, based on said signal type, selects a performance monitoring block to monitor quality of said optical signal.

10 14. The apparatus of claim 11 wherein one of said possible signal types is SONET OC-192.

15 15. The apparatus of claim 11 wherein one of said possible signal types is SDH STM-64.

16. The apparatus of claim 11 wherein one of said possible signal types is 10 Gigabit Ethernet having a bit rate of 10.325 Gbps.

17. The apparatus of claim 11 wherein one of said possible signal types is G.709 having a bit rate 10.709 Gbps.

5 18. The apparatus of claim 11 wherein one of said possible signal types is 10 Gigabit Ethernet employing Forward Error Correction and having a bit rate of 11.090 Gbps.

19. Apparatus for operating an optical receiver system, said apparatus  
10 comprising:

a clock recovery block that receives a clock signal from a received optical signal and measures a difference of rate between said clock signal and a reference clock; and

a control processor that, based on said difference of rate, determines a signal type of said received optical signal.

15 20. The apparatus of claim 11 wherein said control processor, based on said signal type, selects a traffic processing block to further process said electrical signal.

21. The apparatus of claim 19 wherein said control processor, based on said signal type, selects a performance monitoring block to monitor quality of said optical signal.

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22. The apparatus of claim 19 wherein one of said possible signal types is SONET OC-192.

23. The apparatus of claim 19 wherein one of said possible signal types is  
10 SDH STM-64.

24. The apparatus of claim 19 wherein one of said possible signal types is 10 Gigabit Ethernet having a bit rate of 10.325 Gbps.

15 25. The apparatus of claim 19 wherein one of said possible signal types is G.709 having a bit rate 10.709 Gbps.

26. The apparatus of claim 19 wherein one of said possible signal types is 10  
Gigabit Ethernet employing Forward Error Correction and having a bit rate of 11.090  
Gbps.

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27. Apparatus for operating an optical receiver system, said apparatus  
comprising:

means for receiving an optical signal;

means for converting said optical signal to an electrical signal;

10 means for automatically identifying a clock rate of said electrical signal; and

means for using said identified clock rate to select a signal type of said optical  
signal from a set of possible signal types.

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